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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/687,404

10/16/2003

Kazuaki Kurihara

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8607

24978 7590 06/11/2007

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EXAMINER

RENNER, CRAIG A

ART UNIT

PAPER NUMBER

2627

MAIL DATE

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06/11/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/687,404	<b>Applicant(s)</b> KURIHARA ET AL.	
	<b>Examiner</b> Craig A. Renner	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/16/03; 12/19/03 &amp; 02/21/06</u> . | 6) <input type="checkbox"/> Other: ____.                                                |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because of the following informality:

In Fig. 2, left-most reference sign "220" should be changed to --200-- in order to be consistent with the remainder of the disclosure.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Objections***

4. Claims 6 and 7 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should *refer to other claims in the alternative only*. See MPEP § 608.01(n). Accordingly, the claims 6 and 7 have not been further treated on the merits.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Marumo et al. (JP 07-136888).

Marumo et al. (JP 07-136888) teaches a piezoelectric actuator (FIG. 1, for instance) comprising a hinge plate (6) which has a central portion, two lateral portions (each 5), and two limbs (each 8), the central portion having both ends and being allowed to be divided between both the ends (as shown in FIG. 1, for instance, i.e., element 6 is divided between two ends with elements 8 and element 4 therebetween), the two lateral portions extending point-symmetrically from both ends of the central portion (as shown in FIG. 1, for instance), and the two limbs extending point-symmetrically and non-linear symmetrically from both ends of the central portion (as shown in FIG. 1, for instance) and being capable of rotating toward and away from the lateral portions (as shown in FIG. 2, for instance); and a piezoelectric element (4) to which the two limbs of the hinge plate are attached firmly (as shown in FIG. 1, for instance) and which brings the two limbs toward and away from each other when it expands or contracts by application and removal of voltage (as shown in FIG. 2, for instance).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2627

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marumo et al. (JP 07-136888).

Marumo et al. (JP 07-136888) teaches the piezoelectric actuator as detailed in paragraph 6, supra. Marumo et al. (JP 07-136888), however, remains silent as to the piezoelectric actuator being a component of an "information disclosure storage device, comprising: a head section carrying a head which executes at least one of information recording and information reproduction on/from a predetermined information storage medium; an arm section which holds the head section in order for the head mounted on the head section to approach or contact the information storage medium; [and] an arm actuator which drives the arm section to move the head mounted on the head section held by the arm section over the information storage medium" as per claims 2-5, wherein the piezoelectric actuator rotates "the head section around the center of gravity of the head section" as per claim 3, "wherein the hinge plate is formed integrally with the arm section" as per claim 4, and "wherein the hinge plate is formed integrally with the head section" as per claim 5.

Official notice is taken of the fact that it is notoriously old and well known in the art to have a piezoelectric actuator be a component of an information disclosure storage device comprising a head section carrying a head which executes at least one of information recording and information reproduction on/from a predetermined information storage medium, an arm section which holds the head section in order for the head mounted on the head section to approach or contact the information storage medium, and an arm actuator which drives the arm section to move the head mounted on the head section held by the arm section over the information storage medium, wherein the piezoelectric actuator rotates the head section around the center of gravity of the head section, the hinge plate is formed integrally with the arm section and/or the head section, in the same field of endeavor for the purpose of enabling data storage/retrieval tracking control. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the piezoelectric actuator of Marumo et al. (JP 07-136888) be a component of an information disclosure storage device comprising a head section carrying a head which executes at least one of information recording and information reproduction on/from a predetermined information storage medium, an arm section which holds the head section in order for the head mounted on the head section to approach or contact the information storage medium, and an arm actuator which drives the arm section to move the head mounted on the head section held by the arm section over the information storage medium, wherein the piezoelectric actuator rotates the head section around the center of gravity of the head section, the

Art Unit: 2627

hinge plate is formed integrally with the arm section and/or the head section. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had the piezoelectric actuator of Marumo et al. (JP 07-136888) be a component of an information disclosure storage device comprising a head section carrying a head which executes at least one of information recording and information reproduction on/from a predetermined information storage medium, an arm section which holds the head section in order for the head mounted on the head section to approach or contact the information storage medium, and an arm actuator which drives the arm section to move the head mounted on the head section held by the arm section over the information storage medium, wherein the piezoelectric actuator rotates the head section around the center of gravity of the head section, the hinge plate is formed integrally with the arm section and/or the head section since such enables data storage/retrieval tracking control.

#### ***Pertinent Prior Art***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Imamura et al. (US 5,764,444), Budde et al. (US 6,233,124), Mei (US 6,239,953), Suzuki et al. (US 6,362,938), and Kurihara et al. (US 2001/0040773), which each individually teaches a disk drive piezoelectric actuator with a hinge plate arrangement.



**Conclusion**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Craig A. Renner  
Primary Examiner  
Art Unit 2627

CAR